DOCUMENT RESUME

ED 320 000 CE 055 043

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TITLE Responding to Changes in Building Legislation. Updating Training for the Building Regulations 1985 and Supporting Documents.
INSTITUTION Further Education Unit, London (England).
REPORT NO ISBN-1-85338-187-X
PUB DATE 90
NOTE 40p.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Education; Adults; *Building Trades; *Continuing Education; *Cooperative Programs; Curriculum Development; Federal Regulation; Foreign Countries; *Inservice Education; *Minicourses; Off the Job Training; Professional Development; *Retraining
IDENTIFIERS *Great Britain

ABSTRACT

A project sought to develop a means of updating and retraining those required to comply with Britain's 1985 Building Regulations, which are substantially different from the previous ones in regard to procedures and technical content. The training needs analysis conducted indicated that the new training should be flexible and use practical and easily understood materials and methods. Consequently, three blocks of training were developed, each of which is virtually self-contained and concentrates on particular aspects of the Building Regulations, so that trainees may select some or all of the blocks according to their individual needs. Six kinds of training materials were produced: (1) short learning modules based on the regulations, in which all the information was provided for answering set questions in a self-contained learning package; (2) case studies; (3) questions and answers based on the regulations, which can be used for self-assessment; (4) slides illustrating the regulations in practice; (5) illustrative reference materials; and (6) trainer's notes. A course based on these materials was pilot tested with a group of practicing architects, builders, civil engineers, and fire officers. Courses have generally been oversubscribed, reflecting the success of the concept of the project. The project suggests that short updating courses to match the changing building legislation can be provided only through cooperation between colleges and the local building control department. (The document describes course content and contains questionnaires used in the needs assessment and course evaluation.) (CML)

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Responding to changes in building legislation

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Updating training for the Building Regulations 1985 and supporting documents

Robert Harris
Alan Phillips

ISBN 1 85338 187 X

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Printed by Blackmore Press, Shaftesbury, Dorset

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Acknowledgements

The authors wish to thank, in particular, the project team members for their enthusiastic approach and team work. They would also like to thank their colleagues at Richmond upon Thames College for their interest and support, especially Angela Cross-Durrant who assisted greatly by editing the draft of the final report.

Gratitude is also expressed to the steering committee, to Albert Clyde of FEU, Celia Jones of PICKUP, and the many individuals and organisations without whose comments, time and expertise a successful outcome to this project would not have been possible.

Foreword

This document reports on a project intended to produce a training programme in response to recent changes in building control legislation. The project was undertaken by Bob Harris of Richmond upon Thames College and Alan Phillips of the London Borough of Hounslow, assisted by a team of practising building control officers.

Responding quickly to changes in legislation and creating appropriate work-based training curricula should always be a principal aim of those who provide training in support of industry. The introduction of the Building Act 1984 and the Building Regulations 1985 represented such a change in legislation. A link was established between Richmond upon Thames College and building control departments of a number of local authorities, and a joint project team was formed to devise and deliver a training programme suitable for all sections of the construction industry. The model developed could be applicable for providing training to cope with the ongoing changes in regulations.

A novel feature introduced in the training programme was the concept of a 'transferable ticket'. Those who requested a place on all three blocks of the training course could take advantage of this arrangement, allowing different members of a company the opportunity to attend the training sessions most applicable to them. This proved attractive to the industry, and in some cases made the difference between whether or not the company participated in the course.

The course team has produced a considerable amount of training material which has been tested in a number of delivery formats. Richmond upon Thames College will supply details of the availability of this material on request.*

It is hoped that this link between two branches of the borough might serve as a model for future co-operation with other departments and be repeated in other councils around the country. It can be argued that any new legislation lends itself to this kind of training. The strategies and methodology outlined in this report could equally well be adopted by professionals in other disciplines, e.g. Town Planning and Environmental Health.

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Finally, on behalf of FEU, I would like to express thanks to all who participated in the project, in particular the authors of this report and the various building control officers and their employers for, although the project took on dimensions far in excess of that originally intended, they carried through to the end.

Comments on issues raised by the project should be made to me at FEU (Tel. 01-321 0433 ext. 236).

Albert Clyde
FEU Development Officer

Summary

The aim of this project was to provide a sound and informed means of updating and retraining those involved with, or required to comply with, the new Building Regulations and Approved Documents. This was achieved by collaborating with professionals with the appropriate expertise and experience in administering and enforcing the regulations. College staff also trained the professionals in training techniques to take account of adult participation in the programme.

The new Building Regulations are substantially different from the previous ones with regard to technical content and procedural matters. By conducting a training needs analysis, the project team identified a need for flexible retraining that would meet clients' requirements, using practical and easily understood materials and methods that would explain the legislation clearly. This need was confirmed by discussion with officers at the Construction Industry Training Board.

The short courses developed are intended to aid the performance and efficiency of those concerned with implementing and/or complying with the new regulations, thereby improving the overall efficiency of the construction industry.

Each training block is virtually self-contained and concentrates on particular aspects of the Building Regulations, thus offering flexibility for clients who may select some or all of the blocks according to need.

A project team was formed to analyse the Building Regulations, and to design materials and devise delivery strategies. Six different kinds of materials were produced:

- short learning modules based on the regulations, where all the information was provided for answering set questions in a self-contained learning package;
- case studies, based on 'real life' situations;
- questions and answers based on the regulations, which can be used for self-assessment;
- slides illustrating the regulations in practice;

- illustrative reference materials;

- trainers' notes.

A pilot course based on the materials was delivered to a group of practising architects, builders, civil engineers and fire officers who attended the college on a regular basis, and was evaluated by the project team. A similar evaluation took place after the completion of a weekend course. This led to appropriate modification of the course.

Courses held to date have generally been over subscribed, reflecting the success of the concept of the project. Many participants who enrolled for the first block of the course subsequently took up places in the remaining blocks and enjoyed working with the case studies and other learning material.

The provision of short, updating courses to match the changing building legislation can, perhaps, only be made through co-operation between a college and its local authority's building control department. College staff tend to have training skills, and building control professionals first-hand technical experience and up-to-date knowledge of the legislation. A collaboration between professionals has enabled a short course to be devised and implemented quickly, and delivered in a very flexible format to meet the varying needs of the construction industry.

Introduction

The careful analysis and presentation of statutory orders giving effect to acts of parliament, in an easily understood format, can assist industry to take up and implement new issues that arise. New legislation is not always easy to interpret and it befalls private and public training agencies to evolve an analysis that is easily understood and can be effectively disseminated.

With the introduction of the Building Act 1984 and Building Regulations 1985, which form the basis of the new system of control, it became apparent that there were courses which outlined the new legislation in a general way, but were generally directed at management personnel and designed to give an insight into overall concepts so that authoritative information could be passed on to subordinates.

It became evident, from contact with other colleges and by the assessment of advertising material, that there was no provision for detailed training in the Building Regulations in a short course training format. This may have been due to the complexities of the legislation and the preparation work required. This report gives an account of a collaboration between the college and local authority building control officers to devise a package to provide training support to match the changes in legislation affecting the construction industry.

During the next few years the functional Building Regulations and Approved Documents will continue to be subject to change. The 1985 regulations were introduced as the first stage of a major review, and further amendments and refinement will follow. This project has provided a model for training which could be applicable to further training to take account of these ongoing changes.

Whereas this report is designed primarily to facilitate other colleges in the design of updating courses in close collaboration with the industry and the local authorities they serve, it is hoped that its dissemination may also provide the stimulus for building control departments and those who use the regulations to continuously update their staff.

Background

The project team were concerned with the provision of a training programme relevant to local authority and building company staff affected by the Building Regulations 1985, resulting from the Building Act 1984. Approved Documents, which are a complex set of guidance notes that introduce new ways in which the regulations are interpreted and administered, also form part of the system of control.

The Building Regulations have changed from the concept of requiring simple, specific compliance, to meeting performance criteria where flexibility of interpretation may be negotiated between the applicant and those who administer control. The imprecise functional nature of the mandatory requirements can give rise to differences in interpretation. Approved Documents have, therefore, been issued by the Secretary of State to overcome the problems of interpretation, but designers are not obliged to adopt any particular solution contained in an Approved Document if they prefer to meet the mandatory requirement in some other way. Building Notice procedures were also introduced into the Building Regulations, and applicants can now have their building work approved by the local authority Building Control Department or elect to use an independent approved inspector.

The aim of this curriculum development exercise was to go beyond the general seminars for senior managers and to develop flexible learning packages to update those who work with the legislation on a day-to-day basis. A further principal aim was to develop specialist courses for building companies and architectural practices. Such courses could be tailor-made to suit the needs of individual companies; some courses may well be conducted in-house.

The team has delivered a pilot programme of training sessions, and was supported by a steering committee drawn largely from industry (see Appendix 1). The project team set out to present and illustrate the Building Regulations in a way participants would use in practice, looking at the operations involved and at 'real life' case studies where possible.

The three key areas that formed the basis of the work were:

- reflecting on the past;
- understanding the present;
- planning for the future.

By concentrating on these, the team aimed to lead the participants to a greater knowledge of the new Building Regulations and Approved Documents.

With the aid of FEU (PICKUP) funding, the college brought together a team of building control experts from Richmond upon Thames, Kingston upon Thames, Hounslow and Spelthorne local authorities, supported by staff from Richmond upon Thames College. The team compiled the curriculum and produced short learning modules supported by slides, a video, sets of model questions, answers and handouts.

Education and the construction industry

In 1960, a digest published by the Building Research Station stated that '. . . the most significant developments in relation to the longer term change in the building industry are those in formal education'.* In the intervening years the professional institutions associated with the building industry have constantly revised the education requirements for membership and promoted and encouraged further education.

The Memoranda of Association of the Professional Institutes show clearly the link between education and the advancement of specialist technology professions. For example, the Institute of Building Control was established to advance public education in the science and law of Building Control; one of the principal objectives of the Incorporated Association of Architects and Surveyors has been to promote and extend the knowledge, study and practice of the art of architecture and the science of surveying. (A brief commentary on continuing professional development for professionals in the construction industry is given in Appendix 2.)

In the development of this updating course, a close relationship was established between two sections of the borough — the Education Department through the college, and the Department of Technical Services through its Building Control Section. This relationship needs to be encouraged and will stimulate the updating role of education in meeting the post-experience needs of the professions and improving performance and efficiency in the construction industry.

* 'Research and its Uses', *Building Research Station Digest 1* (second series), prepared by the Building Research Station, HMSO, 1960, p.4.

Building regulations — a training gap

The training of professionals in the construction industry has lacked in-depth courses relating to the Building Regulations. A BTEC higher level unit on the Building Regulations offered a general overview of the regulations, but few college lecturers have detailed knowledge of the regulations.

With the introduction of the new system of building control, there was a need to retrain those responsible for control, and those who have to comply with the regulations. The establishment of a training programme was also necessary because there would be further changes proposed to the regulations under the stage II review, and the introduction of independent approved inspectors.

In 1984, a member of the college construction staff team attended a series of talks given by individual building control officers from Richmond who dealt with the new regulations and supporting documentation. This was an informative experience and it was suggested that practising professionals could be used in the development of retraining schemes for the construction industry.

A telephone survey of approximately 30 local building, architectural and civil engineering companies indicated support for a range of courses, and a demand for the updating programme suggested.

A report was circulated to relevant parties within the college and industry, and comments were invited. On the basis of the replies, an application was made to FEU/PICKUP for funding for appropriate curriculum development.

Needs analysis, marketing and publicity

Needs analysis

Following the preliminary telephone survey, a training needs analysis questionnaire was prepared to identify awareness of the new regulations and associated training needs (Appendix 3). This exercise also acted as a means of notifying potential trainees and their employers about the proposed programme. Many respondents to the survey requested further information about the proposed course (Appendix 4).

The Chartered Institute of Building, the Royal Institute of British Architects and the Royal Institute of Chartered Surveyors were contacted informally about recognition of the course for CPD, and an agreement, in principle, reached.

The Construction Industry Training Board (CITB) granted the course approved status, which allows contractors who pay a levy to claim a grant towards the cost of each employee sponsored on the course.

Possible development of the course into a distance learning pack would also provide sufficient activity to cover any home-based learning requirements.

Marketing and publicity

Course leaflets were sent to respondents to the questionnaires and to other companies in the construction industry. The Institute of Building Control and the Chartered Institute of Building disseminated information to their regions and to individual members, and professional trade journals published details of the course. Where appropriate, leaflets were followed up by telephone calls to clarify matters and to seek to create a degree of interest and confidence in the pilot course. This marketing strategy led to an over-subscription for the first pilot course.

The initial pilot for the first block of the course, dealing with approximately one third of the Building Regulations and Approved Documents, was marketed within the London area and held at the college. There were 28 participants, including architects, developers, building control officers and fire officers. Of the group, 24 continued to the second and third training blocks and so covered all the regulations and Approved Documents.

Those who requested a place on all three blocks of the training course could take advantage of a 'transferable ticket' arrangement which allowed different

members of a company to attend the training sessions most applicable to them. This proved attractive to the industry and in some cases meant the difference between whether or not a company participated in the course. For example, one borough architect's department ear-marked the training sessions most appropriate to its staff and collated and disseminated the course material among the team as a whole. Another design office nominated three people to attend, each participating in a different block of the training sessions.

Weekend residential versions of each of the training blocks were marketed nationally, using leaflets and telephone calls.

Project development and implementation

Project Director

The Project Director was a lecturer in Construction Technology at Richmond upon Thames College. Advice on education, training and presentational issues was obtained from FEU and appropriate college staff.

Steering committee

The Project Director and team were advised by a steering committee, in which they were joined by representatives from industry, FEU, PICKUP, and relevant professional consultants (see Appendix 1).

Project team

The course was produced and delivered by a team of practising Building Control Officers, each specialising in a particular aspect of the Building Regulations and Approved Documents. A prerequisite for the project team members was that they should be professionally qualified in building control, with at least five years' post-qualification experience.

Five Building Control Officers were invited to join the team on the basis of their particular expertise (see Appendix 1). The local authority building control departments allowed the project team to draw upon a wide band of experience and provided relevant case study material. For example, one borough council supplied general information relating to the commercial developments in progress in its town centre.

Course methodology

Much thought was given to the delivery of the course material and supporting documents. Experimental training sessions were organised, with college staff members invited to attend and assess the methods of delivery. This enabled the project team to evaluate the effectiveness of alternative methods of delivery and the most suitable format to be identified.

A 'training the trainers' session permitted the project team to gain understanding and experience and develop support for the participant-based training process chosen for the design and delivery of the programme.

It is worth emphasising that some of the decisions relating to the choice of training methods required considerable thought and time from the trainers. The advantages of including practising Building Control professionals are

obvious: it gave credibility because of their professional status and detailed, up-to-date knowledge and experience in its application, and they brought to the training a reality that comes from dealing with direct work-related issues involving the regulations. However, they had less expertise, and therefore less confidence in traditional formal teaching techniques. Thus, wider adult training issues and methodology had to be carefully addressed when designing, updating and retraining courses to be delivered by team members with little or no teaching experience.

Curriculum content and supporting materials

The updating course makes use of a range of curriculum materials including slides, question-and-answer sheets, short learning modules and case studies. The accent is on practical understanding of the Building Regulations through clear explanations and visual presentations.

Short learning modules

Short Learning Modules (SLMs) may be defined as an element of structured, self-contained course work laid out in one 'document', to be worked through completely before another is begun, together with appropriate assessment. In this case they comprised exercises which required participants to apply the Building Regulations as they would in their work situation.

SLMs were developed for each part of the Regulations and Approved Documents and consisted of an aim, a set of objectives, one or more tasks or a set of questions, and references and background information. They included exercises which a competent practitioner should be able to attempt on completion of each part of the training. The text of each regulation was provided in the SLMs, together with notes for the supervising trainers.

Case studies

The course team also made use of case studies — written accounts of realistic situations containing problems for learners to analyse, generate possible solutions to, and suggest the most suitable answer for. These case studies allow participants to develop problem-solving skills and self-evaluation techniques. They were designed to be undertaken individually, in small groups, or as the basis for large group discussion.

The case studies were mainly copies of reports and letters from the various local authorities and were presented for analysis and discussion.

Visual presentation

Colour transparencies of realistic examples of site work were prepared to illustrate various aspects of the Building Regulations. Slides of the text of the Building Regulations and Approved Documents were also made to assist appreciation of the layout of the legislation and understanding of the content. The slides, with suitable audio material, will be developed into video format to assist in the presentation of distance learning material at a future date. Appropriate overhead projector transparencies were also prepared.

Questions and answers

During the early stages of the project the Building Regulations and Approved Documents were organised into a series of questions and answers. To assist the participants to assess their responses and comprehension, each training session included some 40 questions, supported by a series of model answers which were distributed at the following training session. However, it should be noted that the flexible nature of the Building Regulations can result in a variety of answers to particular questions. Thus, model answers should not be regarded as definitive but used as acceptable solutions and examples to encourage discussion among participants.

Questions from the participants

Answering work-related questions from course participants formed an important part of the training process; the management of this task was considered at length. Two methods were selected to get maximum benefit for the group as a whole and the questioner:

- acceptable and relevant questions from the participants took precedence over elements of the prescribed course work as it was recognised that course members could have pressing anxieties about on-the-job problems, and to continue with a pre-arranged course element might discourage participants from following a particular work-related issue to its logical conclusion;

- the second method was to speak to participants as they worked on their Short Learning Modules. The trainer moved among the group asking questions about their current exercises, soliciting and answering questions which related to their own experiences and problems. Following completion of the Short Learning Modules, an open group discussion took place, and relevant questions and issues of interest to the whole group were discussed.

Guided study

Since questions from course members could take up a large proportion of the available time, it was decided to give participants an opportunity to catch up on more formal work.

Relevant sections of the regulations were framed into a series of questions given to the participants at the end of each training session, allowing them to work through the questions and derive answers from the regulations in their own time. A set of model answers was distributed to participants at the next meeting. This system allowed the basic training to continue outside the group situation.

Additional handouts included explanations of the regulations in a readily understood format, relevant current articles and appropriate references.

Production of training materials

All the training materials produced had a standard format, based on an agreed method of analysing the regulations to permit training material to be developed. Specific sections and parts of the Building Regulations were divided between the project team members who took responsibility for producing the learning/training materials required.

The regulations were printed in reduced format on the right-hand side of A3 paper. This allowed thoughts and ideas to be written on prescribed sections of the sheet on the left, thereby allowing each page of the regulations to be analysed in a systematic way. The analysis included the following information:

- suitable slides;
- suitable areas to form the basis for short learning modules and case studies;
- any diagrams that would be required;
- any elements that would lend themselves to video production;
- questions and answers relevant to the page;
- trainers' notes.

These sheets formed the basis for the production of the materials for the training sessions.

Following production of the slides, project team members viewed each slide and comments were collated. It was then allocated to the file for the relevant training session.

Course content

The Building Regulations, enabling legislation and approved documents were divided into three distinct blocks, covering:

- procedural matters, facilities for the disabled and means of escape in case of fire;
- structure, site and fabric;

- fire safety, services systems and energy conservation.

The curriculum breakdown for each block of the course was as follows:

Block I — (8 × 2 hours, 4 × 4 hours or weekend:
10.00am Friday — 2.00pm Sunday)

Procedural matters, facilities for the disabled, and means of escape in case of fire.

Training session I

1. Introduction to the course and enabling legislation — Part I of the Building Act 1984 — Parts I and II of the Building Regulations 1985. The Building (Inner London) Regulations 1985 and 1987.

2. Part III of the Building Regulations 1985 — functional requirements and relaxations.

3. Part IV of the Building Regulations 1985 — notices and plans.

4. Part V of the Building Regulations 1985 — approved inspectors, Part II of the Building Act 1984, and the Building (approved inspectors, etc.) Regulations 1985.

5. Materials and workmanship, sampling and testing — Building Regulations 7, 15 and 16 and Sections 19 and 20 of the Building Act 1984.

6. Schedule 3 and Building Regulation 9 — exempt buildings and work and exemptions under the Building Act 1984.

7. Part M — Disabled people (formerly Schedule 2 — facilities for the disabled).

8. Part B1 — Means of escape in case of fire, mandatory rules and British Standards, Sections 24 and 72 of the Building Act 1984.

Block II — (8 × 2 hours, 4 × 4 hours or weekend:
10.00am Friday — 2.00pm Sunday)

Structure, site and fabric

Training session II

9. Part A — Structure — introduction and residential requirements.

10. Part A (continued) — Other purpose groups and disproportionate collapse.

11. Part C — Site preparation and resistance to moisture.

12. Part D — Toxic substances and cavity fill insulation.

13. Part E — Resistance to the passage of sound — introduction — walls.

14. Part E (continued) — Floors and similar constructions.

15. Part F — Ventilation.

16. Part K — Stairways, ramps and guards.

Block III — (8 × 2 hours, 4 × 4 hours or weekend:
10.00am Friday — 2.00pm Sunday)

Fire safety, services systems and energy conservation.

Training session III

17. Part B — Fire — Introduction and requirement B2

18. Part B (continued) — Requirement B3

19. Part B (continued) — Requirement B4 and unprotected areas.

20. Part G — Hygiene.

21. Part H — Drainage and waste disposal — Sections 21, 59-63 of the Building Act 1984.

22. Part J — Heat producing appliances, Section 73 of the Building Act 1984 and the Clean Air Act 1956.

23. Part L — Conservation of fuel and power — introduction — dwellings.

24. Part L (continued) — Other purpose groups. Course conclusion.

Each training session was arranged to be self-contained, which allowed flexibility for clients. For example, participants wishing to receive instruction solely in fire-related studies could attend training sessions in Part B1 (means of escape in case of fire) and Part B (fire), grouped together as one block.

The pilot

Block 1 (pilot) training session

The pilot programme commenced in 1987 and ran for eight weeks. The team gained feedback from participants on the student-based short learning modules produced, and amended the work accordingly. A pilot programme was subsequently undertaken over a weekend.

On-the-job staff development

Most members of the project team who were leading the training sessions had not participated in this kind of delivery before. It was agreed that an ongoing evaluation of their methods of presentation would be given to them by a college lecturer. This led to speedy adjustment where necessary. In addition, other members of the project team were present at each training session to give support to the trainer leading the session, and to aid the coherence of the whole programme.

It was important that the course should meet the needs of individual course participants and it was therefore necessary to omit sections of the training material provided on some occasions. This enabled important issues to be debated as they emerged. For an experienced lecturer or trainer this would be a day-to-day occurrence. For the building control officers, this aspect of the training process proved to be difficult. However, the Short Learning Modules eased the problem, for while course participants were engaged on the study of a module, the trainer was able to respond to individual queries.

The trainers were encouraged to ask leading questions about the participants' own experiences, which led to discussions and established common ground and a good rapport between trainer and participants.

The new regulations allow for negotiations between those requesting approval and those who grant it as many aspects of the regulations are open to a variety of interpretations. This became evident in group discussions, and it was important that trainers learned to facilitate discussions rather than lead or dominate them. They also had to realise that they did not need to give a hard and fast rule regarding conclusions to these discussions. This situation, of course, neatly reflected normal practice in interactions between Building Control Officers and builders seeking approval.

Course timing and accommodation

The timing of the course was set after discussion with prospective participants. A twilight class starting at 5.30 pm and finishing at 7.30 pm over eight weeks was considered most suitable. This meant that employers needed to release employees only towards the end of the day. A subsequent course block ran from 4.30pm to 8.30pm over a four-week period. Individual discussions often took place at the conclusion of the training sessions.

It was also agreed that the courses would run through college holiday breaks in order to keep a degree of continuity with their day-to-day working schedule. When the college was closed the courses were transferred to the local council offices.

Obviously, accommodation had to match the activities involved. Large rooms that allowed a variety of seating arrangements were used, the most common being a U shape to permit increased interaction between trainees.

Continuous course evaluation

Feedback was obtained from the participants, during and after the training sessions, by talking to them and discussing questions raised. All members of the project team took part in this, allowing them to change training strategies in response to participants' requirements.

At the conclusion of each Short Learning Module, a discussion of possible model answers took place. This also provided a method of evaluating participants' understanding of a particular section of the regulations and offered an insight into the effectiveness of the delivery of that session.

Towards the end of the course a questionnaire was used to obtain feedback from the participants (see Appendix 5)

Interviews with selected members of the group were taped and transcribed for analysis by the team. A typical training session was video-filmed, including individual questions and discussions during the delivery of the short learning modules, so that evaluation by the project team of students' and trainers' processes and reactions could be analysed, and appropriate action taken for future training sessions. The reasons for this were fully explained to the participants and trainers, and support was obtained from the whole group.

Conclusions

This project was initiated because few training and updating courses existed for professionals who worked with the new Building Regulations on a day-to-day basis. The training available tended to be either of the specialist one-off seminar type for updating senior managers or standard college lectures forming part of a longer (part- or full-time) vocational course.

Attention was focused on devising a training course to match the continually changing government legislation, and to interpret and illustrate the Building Regulations in the way participants would use them in practice. This was facilitated particularly by the inclusion of professionals in the field.

As a result of research, it became apparent that users of the legislation were experiencing an unacceptable level of difficulty. Additionally, the project team itself experienced problems when seeking to interpret the regulations, despite the Government's declared aim to make the legislation more easily understood.

Any form of training or updating must, in the first instance, set about increasing Building professionals' expectations and demands by encouraging them to be more aware and more critical of their own performance. The use of short learning modules, case studies, and self-assessment questions throughout the course programme helped increase participants' awareness of their level of understanding and aided their implementation of the regulations. Participants have also appreciated more fully the need for training and its benefits.

The team identified the need for a close relationship between two important sections of any borough council — the Education Department and the Department of Technical Services — particularly in the formative period of a training project. By this means the departments were able to devise a collaborative strategy for the implementation of an updating course — the curriculum material being provided by the technical officers and delivered under the guidance of the college professionals.

The close relationship between such departments can act as a stimulus for technical managers to use the course to continuously update and retrain their building control professionals. The training course outlined in this report, therefore, should benefit participants and employing authorities alike.

The operation of the pilot programme highlighted a number of problems related to the course content and presentation, for example the significance of the content to participants. As a result, some parts of the course were extended

in content and others reduced. The self-contained training sessions have allowed this to be brought about without affecting continuity of delivery and presentation.

Due to the continuing changes taking place in respect of the regulations and Approved Documents, research and development should be continued. The project has established a suitable methodology.

A high level of commitment and skill is required of the trainers in employing the student-centred learning approach, and 'training of the trainers' is an important component of any programme.

Wider adult training issues and methodology had to be carefully addressed when designing updating and retraining courses to be delivered by non-teaching professionals.

Richmond upon Thames College has achieved a positive improvement in its relationship with the Borough Council's Department of Technical Services (Building Control). The strategies learned, for example the use and training of professionals, will now be applied in other training courses.

It is recommended that colleagues wishing to run training courses similar to the one outlined here negotiate with their own Technical Services/Building Control Departments in order to tap that very useful source of expertise.

Three volumes of course materials representing the three blocks of the course have been produced to date. The questions and answers will be published in book form, supported by illustrations taken from the slides. The slide material could be transferred to video format together with a suitable sound track and commentary.

The Building Regulations lent themselves to being split into distinct sections for in-depth study. This allowed the materials to be delivered to specialist sections of the industry as one-off training courses. It is proposed to have the course material and training packages printed in a standard format for sale and distribution to other colleges and organisations in the near future.

Appendix 1
Project team and steering committee

Project Team

R A Harris	Richmond upon Thames College
A M Phillips	London Borough of Hounslow
B Kiddell	Building Control Consultant
K G Saunders	Spelthorne Borough Council
P C Culley	East Hampshire District Council
P C Davis	Royal Borough of Kingston upon Thames

Project Steering Committee

R A Harris	Richmond upon Thames College	Joint Project Directors
A M Phillips	London Borough of Hounslow	
L M Handley	London Borough of Richmond upon Thames	
A Clyde	Further Education Unit	
S D Wells	Royal Borough of Kingston upon Thames	
R Lovrey	London Borough of Hounslow	
C Jones	DES PICKUP Regional Development Agent	
B Garrod	Richmond upon Thames College	
A G Williams	Richmond upon Thames College	
J Curtis	Department of the Environment	
L Cristofoli	Richmond upon Thames College	
C Morris	Darbourne & Partners, Richmond	

P Carey London Fire Brigade (LFCDA)

E R Moscrop Building Control Consultant

D Ballard Richmond upon Thames College

A Field Department of the Environment

Support was also received from the Construction Industry Training Board

Appendix 2
Continuing professional development

Continuing Professional Development (CPD) may be defined as the process by which a professional person maintains the quality of professional service throughout a working life. If Building professionals are to maintain and develop their competence and be alive to new ideas and attitudes, they must be given the opportunity to broaden their knowledge and experience and acquire new skills.

Professional institutions and associations already support CPD in principle and practice, including the following:

- The Incorporated Association of Architects and Surveyors
- The Institute of Building Control
- The Royal Institution of Chartered Surveyors
- The Royal Town Planning Institute
- The Chartered Institute of Building
- The Royal Institute of British Architects
- The Institution of Civil Engineers
- The Society of Architectural and Associated Technicians

Some institutions have made CPD compulsory for a section of their membership, while others have introduced CPD schemes on a voluntary basis.

The following activities are generally considered by the institutions to be eligible for CPD:

- technical courses
- conferences and seminars
- part-time lecturing
- technical authorship

- institution/association activities
- home-based learning — research and correspondence courses

Institutions also require that a member's entire CPD activity throughout the year should not be related solely to a single activity. Members should aim for a minimum of:

- 10 hours of courses, conferences or technical meetings,
- 15 hours of home-based learning, and
- 25 hours of part-time lecturing/technical authorship.

Appendix 3
Analysis of training needs

1. Name .....

   Position held .....

   Company name .....

   Address .....

   Telephone number .....

2. Listed below are the parts of the Building Regulations and Approved Documents. Please tick either **A** or **B** for each heading.

Final summary figures and % of 60 respondents		Information & explanation concerning this part is: A Sufficient	B Insufficient
Building Regulation	— Procedural	[42] 81%	[10]
Part A	— Structure	[40] 77%	[12]
Part B	— Fire	[38] 64%	[21]
Part B1	— Means of escape	[36] 61%	[23]
Part C	— Site preparation	[38] 83%	[8]
Part D	— Toxic substances	[31] 66%	[16]
Part E	— Sound	[30] 64%	[17]
Part F	— Ventilation	[34] 74%	[12]
Part G	— Hygiene	[36] 80%	[9]
Part H	— Drainage	[33] 72%	[13]
Part J	— Heat producing appliances	[36] 71%	[15]
Part K	— Stairways	[48] 84%	[9]
Part L	— Energy conservation	[31] 67%	[15]
Reg. 7	— Materials and workmanship	[27] 61%	[17]

Sch. 2	— Facilities for the disabled	[26] 53%	[23]
Sch. 3	— Exemptions	[31] 69%	[14]

3. Do you understand the difference between functional regulations and approved documents?

	Yes	No
Please tick	[49] 82%	[11]

4. Are you familiar with the sections of the Building Act 1984 which are complementary to the Building Regulations (i.e. building over sewers, demolition, etc.)

	Yes	No
Please tick	[20] 33%	[40]

5. Do you feel you would benefit from an explanation of those sections of the Building Act which are in addition to the Building Regulations?

	Yes	No
Please tick	[37] 62%	[23]

6. Do you find the wording of the Principal Building Regulations 1985 (1-20) difficult to understand?

	Difficult				Easy
	1	2	3	4	5
Please grade	[7]	[8]	[25]	[16]	[4]
	11.5%	13%	42%	27%	6.5%

7. Do you use alternative approaches to the Approved Documents, i.e. British Standards, manufacturers' literature, Agreement Board Certificate, etc.?

	Frequently				Infrequently
	1	2	3	4	5
Please grade	[12]	[15]	[13]	[8]	[12]
	20%	25%	22%	13%	20%

8. My company/institution is largely concerned with:
(Please tick — more than one category if appropriate.)

a)	Design, preparation of drawings, specifications and reports	[20]
b)	Site work and construction	[19]
c)	Combination of a) and b)	[19]
d)	Inspections of work/drawings	[46] 77%
e)	Others — please specify	

.....

.....

9. Who has responsibility for training in your organisation/section?

Name ..... Title .....

10. Would you or another member of staff like to attend a short course designed to update your skill and knowledge concerning the new building regulations?

	Yes	No
Please tick	[39] 65%	[20]

11. If the course was offered, would you prefer to attend:
(Please tick appropriate box)

● Evening classes 2 hours per week divided into three separate eight-week programmes of study	[9] 15%
● One-week (full-time) course	[10] 17%
● Three two-day courses (full-time)	[24] 40%
● Others (please specify)	

.....

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12. Would you be interested in receiving training in either of the following alternative formats?

Please tick	Interested	Not interested
● In-house training (on your premises — minimum of 5 trainees required)	[30] 52%	[28]
● Self-study pack	[31] 56%	[24]

13. It is likely that training would be provided in three broad sections or blocks. Please indicate which of these may be of interest to you.

Please tick	Interested	Not interested
● Procedural matters, facilities for the disabled and means of escape in case of fire	[33] 59%	[23]
● Structure, site and fabric of buildings	[37] 65%	[20]
● Fire safety, services systems and energy conservation	[55] 92%	[5]

14. Please outline below any further aspect or issue concerning the new building regulations which you think should be considered in this training needs analysis.

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.....

.....

.....

Please return your completed questionnaire in the enclosed pre-paid envelope.

THANK YOU VERY MUCH FOR YOUR HELP.

Appendix 4
Summary of analysis of training needs

Copies of the questionnaire (Appendix 3) were sent to numerous practices, companies, institutions and local authorities in the London area considered likely to be making use of the Building Regulations 1985 and the supporting Approved Documents. The intention was to achieve responses from individuals at all levels in the private and public sectors of the building industry. Over 60 responses were received from individuals representing a number of organisations, most of whom completed the questionnaire. However, several unwisely felt they had no cause to refer to regulations relevant to their field of operations and returned the questionnaires unmarked. Twenty-three responses were received from officers representing the various branches of the London Fire and Civil Defence Authority, based throughout London, some of whom had only limited reference to the building regulations (typically parts A, B, B1, J and K). In these cases, the questionnaire had been only partially completed and appreciation of the regulations was limited. Consequently, in the analysis of the questionnaire below, percentages stated relate to the responses received to the particular questions, which range from the maximum of 60 to a minimum of 44.

Number of responses to questionnaire

60 made up as follows:

- 13 from local authority Building Control Officers
- 22 from private practices
- 2 from institutions and
- 23 from officers of the London Fire Brigade (LFCDA)

Analysis of questionnaire

Question 2.

Section 1: In general, the information and explanation contained in the Approved Documents were considered sufficient. Notable exceptions to this were Parts B, B1, D, E, and L of Schedule 1; Regulation 7; and particularly Schedule 2. (The questionnaire was returned prior to the introduction of Part M which has replaced Schedule 2 and will therefore require review in this respect).

Section 2: From the responses received, the most frequently consulted approved documents were those relating to Parts A, B, B1, F, H, K and L of Schedule 1.

It should be remembered that a significant proportion of the responses was received from the LFCDA and this has distorted the figures relating to Parts B and B1.

Question 3. The percentage understanding the difference between the functional regulations and approved documents is slightly distorted downwards since the LFCDA issue only certain approved documents, apparently as a reference document.

Questions 4 & 5. There is evidently a significant ignorance of sections of the Building Act 1984 which are complementary to the building regulations; this is clearly an area for further development in training terms. It is of concern that nearly 40% of the respondents did not feel they would benefit from an explanation of the appropriate sections of the Building Act 1984 which nearly 70% of the total claimed to be unfamiliar with.

Question 6. The Building Regulations 1985 were intended to be easier to understand than the 1976 regulations, yet the responses received still indicate that an unacceptable level of difficulty is experienced.

Question 7. Unfortunately, the responses received were inconclusive, giving an even spread throughout the range of frequency.

Questions 10 & 11. Despite the evident difficulties of interpretation and understanding relative to the approved documents, some 35% of respondents considered that neither they nor other members of staff would like to attend a short course to update their skill and knowledge. For those willing to attend such a course, the preferred option was for three two-day courses (full-time). In view of Question 12, it is to be emphasised that such courses were to be away from the place of work. Suggestions for other formats received were limited, but included:

(a) a one-day course for Fire Prevention Officers
(b) one day a week
(c) half day a week over 6-8 weeks
(d) weekend briefings.

Question 12. Overall, response to the alternative formats for training was disappointing, with barely 50% interested in each. However, there was an overwhelming interest from those in private practice for a self-study pack (17 of 22 respondents).

Question 13. Of the three broad sections of the building regulations listed, there is an emphatic interest in Section C (fire safety, services systems and energy conservation), a section to which individuals can perhaps most easily relate.

Question 14. Few suggestions were received for consideration of other aspects of the building regulations, but particular reference was made to:

(a) enforcement (see Questions 4 and 5 since this is under the Building Act 1984);

(b) passive fire precaution installations — this could be developed to introduce the concept of fire engineering.

Appendix 5
Course evaluation questionnaire

Now that you have reached the end of this short course on the building regulations, we should be most grateful if you could spend a few minutes on answering the following questions which would be helpful to us.

Your views and ideas are important in helping us to maintain and improve our courses. All the information you provide will be treated in confidence and no respondents will be identified by name in any evaluation report. Many thanks for your co-operation.
(Please tick box)

	Excellent	Good	Fair	Poor	Comments
Short learning modules	[ ]	[ ]	[ ]	[ ]	....
Question & answer sheets	[ ]	[ ]	[ ]	[ ]	....
Handouts	[ ]	[ ]	[ ]	[ ]	....
Slides	[ ]	[ ]	[ ]	[ ]	....
Discussion	[ ]	[ ]	[ ]	[ ]	....
Training	[ ]	[ ]	[ ]	[ ]	....
Whole course	[ ]	[ ]	[ ]	[ ]	....

Have you used any of the course materials in your work? Yes/No
If yes, which? .....

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